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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/814,916 | 03/30/2004 | Bela Kleiner | | 2890 |

7590 09/28/2006

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EXAMINER

ANDERSON, REBECCA L

| ART UNIT | PAPER NUMBER |
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1626

DATE MAILED: 09/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/814,916 | KLEINER, BELA | |
| | Examiner | Art Unit | |
| | Rebecca L. Anderson | 1626 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) ____ is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☒ Claim(s) 1-9 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claims 1-9 are currently pending in the instant application and are subject to the following restriction requirement.

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claim 1 drawn to the chemical industrial system design classified in class 422.
- II. Claim 2 drawn to a process for preparing nitrogen dioxide, nitric oxide and sodium ascorbate or sodium isoascorbate by bringing together aqueous ascorbid acid solution or isoascorbic acid solution with aqueous sodium nitrite solution in a chemical system classified in class 549.
- III. Claim 2 drawn to a process for preparing nitrogen dioxide, nitric oxide and sodium ascorbate or sodium isoascorbate by bringing together aqueous ascorbid acid solution or isoascorbic acid solution with aqueous sodium nitrite solution in a chemical system with the additional step of further reacting the gas mixture with oxygen to give homogeneous nitrogen dioxide, classified in class 549.
- IV. Claim 2 drawn to a process for preparing nitrogen dioxide, nitric oxide and sodium ascorbate or sodium isoascorbate by bringing together aqueous ascorbid acid solution or isoascorbic acid solution with aqueous sodium nitrite solution in a chemical system with the additional steps of further reacting the gas mixture with oxygen to give homogeneous nitrogen

dioxide and dissolving the nitrogen dioxide in water forming nitric acid, classified in class 549.

- V. Claim 3 drawn to a process for preparing nitrogen dioxide, nitric oxide and potassium ascorbate or potassium isoascorbate by bringing together aqueous ascorbid acid solution or isoascorbic acid solution with aqueous potassium nitrite solution in a chemical system classified in class 549.
- VI. Claim 3 drawn to a process for preparing nitrogen dioxide, nitric oxide and potassium ascorbate or potassium isoascorbate by bringing together aqueous ascorbid acid solution or isoascorbic acid solution with aqueous potassium nitrite solution in a chemical system with the additional step of further reacting the gas mixture with oxygen to give homogeneous nitrogen dioxide, classified in class 549.
- VII. Claim 3 drawn to a process for preparing nitrogen dioxide, nitric oxide and potassium ascorbate or potassium isoascorbate by bringing together aqueous ascorbid acid solution or isoascorbic acid solution with aqueous potassium nitrite solution in a chemical system with the additional steps of further reacting the gas mixture with oxygen to give homogeneous nitrogen dioxide and dissolving the nitrogen dioxide in water forming nitric acid, classified in class 549.
- VIII. Claim 4 drawn to a process for preparing nitrogen dioxide, nitric oxide and calcium ascorbate or calcium isoascorbate by bringing together aqueous

ascorbid acid solution or isoascorbic acid solution with aqueous calcium nitrite solution in a chemical system classified in class 549.

- IX. Claim 4 drawn to a process for preparing nitrogen dioxide, nitric oxide and calcium ascorbate or calcium isoascorbate by bringing together aqueous ascorbid acid solution or isoascorbic acid solution with aqueous calcium nitrite solution in a chemical system with the additional step of further reacting the gas mixture with oxygen to give homogeneous nitrogen dioxide, classified in class 549.
- X. Claim 4 drawn to a process for preparing nitrogen dioxide, nitric oxide and calcium ascorbate or calcium isoascorbate by bringing together aqueous ascorbid acid solution or isoascorbic acid solution with aqueous calcium nitrite solution in a chemical system with the additional steps of further reacting the gas mixture with oxygen to give homogeneous nitrogen dioxide and dissolving the nitrogen dioxide in water forming nitric acid, classified in class 549.
- XI. Claim 5 drawn to a process for preparing nitrogen dioxide, nitric oxide and barium ascorbate or barium isoascorbate by bringing together aqueous ascorbid acid solution or isoascorbic acid solution with aqueous barium nitrite solution in a chemical system classified in class 549.
- XII. Claim 5 drawn to a process for preparing nitrogen dioxide, nitric oxide and barium ascorbate or barium isoascorbate by bringing together aqueous ascorbid acid solution or isoascorbic acid solution with aqueous barium

nitrite solution in a chemical system with the additional step of further reacting the gas mixture with oxygen to give homogeneous nitrogen dioxide, classified in class 549.

- XIII. Claim 5 drawn to a process for preparing nitrogen dioxide, nitric oxide and barium ascorbate or barium isoascorbate by bringing together aqueous ascorbid acid solution or isoascorbic acid solution with aqueous barium nitrite solution in a chemical system with the additional steps of further reacting the gas mixture with oxygen to give homogeneous nitrogen dioxide and dissolving the nitrogen dioxide in water forming nitric acid, classified in class 549.
- XIV. Claim 6 drawn to a process for preparing nitrogen dioxide, nitric oxide and silver ascorbate or silver isoascorbate by bringing together aqueous ascorbid acid solution or isoascorbic acid solution with aqueous silver nitrite solution in a chemical system classified in class 549.
- XV. Claim 6 drawn to a process for preparing nitrogen dioxide, nitric oxide and silver ascorbate or silver isoascorbate by bringing together aqueous ascorbid acid solution or isoascorbic acid solution with aqueous silver nitrite solution in a chemical system with the additional step of further reacting the gas mixture with oxygen to give homogeneous nitrogen dioxide, classified in class 549.
- XVI. Claim 6 drawn to a process for preparing nitrogen dioxide, nitric oxide and silver ascorbate or silver isoascorbate by bringing together aqueous

ascorbid acid solution or isoascorbic acid solution with aqueous silver nitrite solution in a chemical system with the additional steps of further reacting the gas mixture with oxygen to give homogeneous nitrogen dioxide and dissolving the nitrogen dioxide in water forming nitric acid, classified in class 549.

XVII. Claim 7 drawn to a process for preparing nitrogen dioxide, nitric oxide and isobutyl ascorbate or isobutyl isoascorbate by bringing together aqueous ascorbid acid solution or isoascorbic acid solution with aqueous isobutyl nitrite solution in a chemical system classified in class 549.

XVIII. Claim 7 drawn to a process for preparing nitrogen dioxide, nitric oxide and isobutyl ascorbate or isobutyl isoascorbate by bringing together aqueous ascorbid acid solution or isoascorbic acid solution with aqueous isobutyl nitrite solution in a chemical system with the additional step of further reacting the gas mixture with oxygen to give homogeneous nitrogen dioxide, classified in class 549.

XIX. Claim 7 drawn to a process for preparing nitrogen dioxide, nitric oxide and isobutyl ascorbate or isobutyl isoascorbate by bringing together aqueous ascorbid acid solution or isoascorbic acid solution with aqueous isobutyl nitrite solution in a chemical system with the additional steps of further reacting the gas mixture with oxygen to give homogeneous nitrogen dioxide and dissolving the nitrogen dioxide in water forming nitric acid, classified in class 549.

- XX. Claim 8 drawn to a process for preparing nitrogen dioxide, nitric oxide and isoamyl ascorbate or isoamyl isoascorbate by bringing together aqueous ascorbid acid solution or isoascorbic acid solution with aqueous isoamyl nitrite solution in a chemical system classified in class 549.
- XXI. Claim 8 drawn to a process for preparing nitrogen dioxide, nitric oxide and isoamyl ascorbate or isoamyl isoascorbate by bringing together aqueous ascorbid acid solution or isoascorbic acid solution with aqueous isoamyl nitrite solution in a chemical system with the additional step of further reacting the gas mixture with oxygen to give homogeneous nitrogen dioxide, classified in class 549.
- XXII. Claim 8 drawn to a process for preparing nitrogen dioxide, nitric oxide and isoamyl ascorbate or isoamyl isoascorbate by bringing together aqueous ascorbid acid solution or isoascorbic acid solution with aqueous isoamyl nitrite solution in a chemical system with the additional steps of further reacting the gas mixture with oxygen to give homogeneous nitrogen dioxide and dissolving the nitrogen dioxide in water forming nitric acid, classified in class 549.
- XXIII. Claim 9 drawn a process for preparing nitrogen dioxide, nitric oxide and isopropyl ascorbate or isopropyl isoascorbate by bringing together aqueous ascorbid acid solution or isoascorbic acid solution with aqueous isopropyl nitrite solution in a chemical system classified in class 549.

XXIV. Claim 9 drawn to a process for preparing nitrogen dioxide, nitric oxide and isopropyl ascorbate or isopropyl isoascorbate by bringing together aqueous ascorbid acid solution or isoascorbic acid solution with aqueous isopropyl nitrite solution in a chemical system with the additional step of further reacting the gas mixture with oxygen to give homogeneous nitrogen dioxide, classified in class 549.

XXV. Claim 9 drawn to a process for preparing nitrogen dioxide, nitric oxide and isopropyl ascorbate or isopropyl isoascorbate by bringing together aqueous ascorbid acid solution or isoascorbic acid solution with aqueous isopropyl nitrite solution in a chemical system with the additional steps of further reacting the gas mixture with oxygen to give homogeneous nitrogen dioxide and dissolving the nitrogen dioxide in water forming nitric acid, classified in class 549.

Inventions II- XXV are directed to related processes. The related inventions are distinct if the (1) the inventions as claimed are either not capable of use together or can have a materially different design, mode of operation, function, or effect; (2) the inventions do not overlap in scope, i.e., are mutually exclusive; and (3) the inventions as claimed are not obvious variants. See MPEP § 806.05(j). In the instant case, the inventions as claimed are not capable of use together and have materially different reactants and/or reaction conditions and/or process steps. Furthermore, the inventions as claimed do not encompass overlapping subject matter and there is nothing of record to show them to be obvious variants.

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Inventions I and II-XXV are related as process and apparatus for its practice.

The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another and materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the apparatus, or the chemical industrial system design can be used to practice another and materially different process as can be seen by groups II-XXV wherein the processes differ materially in reactants and/or reagents and/or reaction conditions.

Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required because the inventions require a different field of search (see MPEP § 808.02), restriction for examination purposes as indicated is proper.

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention or species may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

Should applicant traverse on the ground that the inventions or species are not patentably distinct, applicant should submit evidence or identify such evidence now of

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record showing the inventions or species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C.103(a) of the other invention.

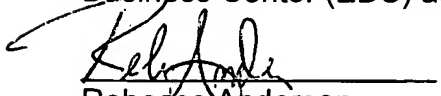
Conclusion

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Rebecca L. Anderson whose telephone number is (571) 272-0696. Mrs. Anderson can normally be reached Monday through Friday 5:30AM to 2:00PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Mr. Joseph K. McKane, can be reached at (571) 272-0699.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Rebecca Anderson
Patent Examiner
Art Unit 1626, Group 1620

September 22, 2006